Organic matter in forest arrangements within the Crop-Livestock-Forest Integration System in Mato Grosso State.

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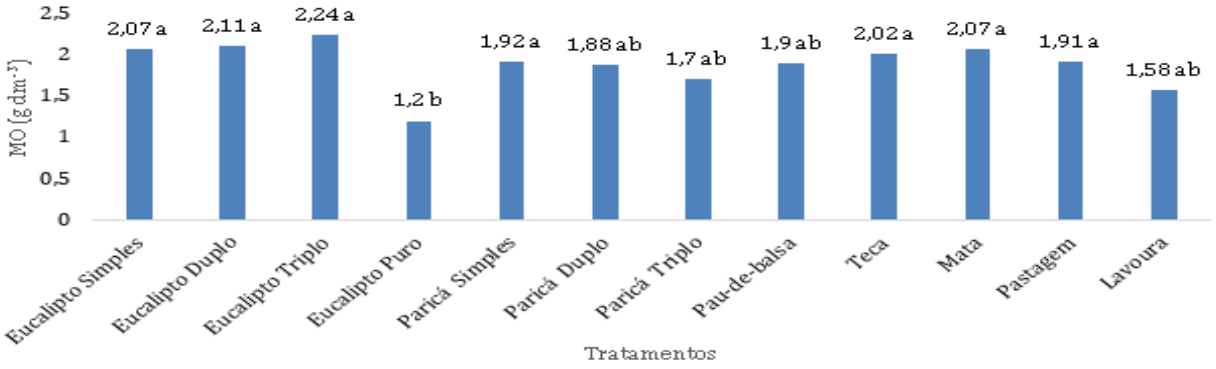
Introduction The crop-livestock-forest integration (CLFi) system is a sustainable production strategy that integrates agricultural, livestock, and forestry activities, conducted in the same area, in an intercropped cultivation in succession or rotation (Balbino et al., 2011). In Mato Grosso State, the main objectives of this integration are the shading provided to the animals, the improvement in the pastures' fertility, and the availability of wood for use at the property.

Material and Methods

The study is being developed on Gamada Farm, located in Nova Canaã do Norte - MT, Brazil, in an experimental crop-livestock-forest integration (CLFi) area. Soil samples were collected from the treatments transversally to the rows of the forest species. The samples for the chemical analyses were collected from the top 0-20 cm layer. Analyses took place at the Soils Laboratory of the Federal University of Mato Grosso, Sinop Campus - MT, according to the methodology of Embrapa (2009).

Results and Conclusions

Fig 1. Soil organic matter values for different forest arrangements in a CLFi system. Means followed by the same letter do not differ statistically at 5% probability, according to the Scott-Knott test.



The highest organic matter contents were found in the single, double, and triple eucalyptus and forest, which did not have a close relationship with the accumulation of plant litter, which was greater in the balsa tree. The plant litter material has different origins; thus, the decomposition time is different. The lowest organic matter contents were observed in the pure eucalyptus, resulting from the absence of animals in the area, and also from the lower level of fertilization compared with the areas in which the crop activity was practiced.

References cited

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